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ing strychnine) has been found very useful in killing the fishes of these pools, often not to be captured in any other way. Mr. Greeley found a good substitute for this poison in the commercial chloride of lime.

D. S. J.

Development of Brain Structures in Amia. — A. C. Eyclesheimer and B. M. Davis give in the *Journal of Comparative Neurology* a valuable study of "The Early Development of the Epiphysis and Paraphysis in Amia." The paper indicates that much is still to be known as to the origin of epiphysial outgrowths from brain structures.

D. S. J.

Scapanorhynchus and Mitsukurina. — In the *Annals and Magazine of Natural History*, Mr. A. S. Woodward, of the British Museum, has a note on *Mitsukurina owstoni* Jordan, an extraordinary lamnoid shark with a long flat blade on its snout, lately described from the deep waters of Japan.

Mr. Woodward shows that Mitsukurina is very closely related to the Cretaceous genus Scapanorhynchus, of which species are known from Mount Lebanon and from the chalk of England.

Mitsukurina and Scapanorhynchus agree in the elongate, blade-like snout, which is, however, longest in Scapanorhynchus. The skeleton, dentition, and gill openings seem to be similar in the two genera, and there appear to be no great differences in the fins. The dense shagreen is also similar in the two; the structure of the basal cartilages of the fins in Scapanorhynchus is unknown; nor is anything known of the claspers.

Mr. Woodward concludes that Mitsukurina is probably identical with his genus, Scapanorhynchus, this name being of prior date. On the other hand, it may be urged that this identity is not proved, and that the specific differences are considerable. There are great disadvantages in the identification of recent fishes with fossil genera which are more or less imperfectly known.

More complete knowledge of the extinct forms often shows that the recent species have undergone such differentiation as should constitute generic difference. I think it, therefore, better to retain for the recent shark the name Mitsukurina, although recognizing its close relationship to its Cretaceous homologue.

The family Mitsukurinidæ is supposed to differ from Carchariidæ (Odontaspididæ) in the presence of a Polyodon-like snout, and perhaps in the structure of its fins and claspers. The writer knows too

little of the fossil forms of this type to form a final opinion as to whether, in view of the relations of the fossil forms, the family Mitsukurinidæ can be maintained.

D. S. J.

The Lateral Line of the Toadfish.—Miss Cornelia M. Clapp, professor of zoölogy in Mount Holyoke College, presents as a doctor's thesis in the University of Chicago a careful study of "The Lateral Line System of *Batrachus tau*."

Dr. Clapp concludes that the lateral line represents an organ of special sense. "The ear seems like a connecting link between the system of lateral line organs from which it has probably originated and the most highly sensory structure in Vertebrata—the eye. Ayers has shown that the auditory organ is in reality a series of canal organs innervated by two distinct cranial nerves." It seems certain that a more thorough knowledge of the changes in these cutaneous sense organs found in fishes and in the embryonic stages of higher types is essential to the understanding of the nervous system itself as developed in higher forms.

It may be noticed that the proper name of our toadfish is *Opsanus tau*, not *Batrachus tau*. The name *Batrachus* was applied by Bloch and Schneider in 1801 to the scaly toadfishes of the tropics, which had still earlier received from Lacépède the name *Batrachoides*. The name is not, therefore, available for any other genus, and the second name in date, the first ever given to the type in question, must be chosen. This is Rafinesque's *Opsanus*.

D. S. J.

Greene on the Lateral Line of the California Toadfish.—In the *Journal of Morphology*, Dr. Charles Wilson Greene, of Stanford University, has an elaborate study of the complex lateral line of another species of toadfish, *Porichthys notatus*, of the California coast. This species has several lateral lines, each of the most complex character, far more specialized than in the common toadfish. The pores in the genus *Porichthys* are accompanied by round shining bodies resembling the luminous spots in certain deep-sea forms, as *Sternoptyx* and *Myctophum*. In *Porichthys* the shining bodies are not known to be self-luminous, and their origin is plainly in the lateral line. The other genera are not related to *Porichthys*, and in them the luminous spots are not outgrowths from the lateral canal system.

Dr. Greene makes no attempt to discuss the homology or significance of the lateral line. Too few forms have yet been studied to make such discussion conclusive. He gives a full account of the